

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A virtual file system which provides mirroring and linking of two file systems, comprising:

means for mounting components of each of said two file systems ~~in on~~ a single mount point constituting a single root directory for the components of both of said two file systems such that each mounted component of one of said two file systems is linked together with and becomes a mirroring pair with a corresponding mounted component in the other one of said two file systems, each of said two file systems having an application interface data structure constituting a programming interface for management thereof and access thereto; and

a virtual file system configured to manage the linking and mirroring of the corresponding mounted components of each of said two file systems, and including a super application interface data structure containing elements which respectively correspond to each of the mounted components, each of said elements having an application interface data structure with two associated pointers that respectively point to application interface data structures of a corresponding component in each of said two file systems an application interface data structure of said virtual file system, and said application interface data structures of each of said two file systems.

2. (Currently Amended) The virtual file system of claim 1, wherein said super application interface data structures correspond to a vnode structure structure of said virtual file system contains said application interface data structure of said virtual file system for managing said virtual file system as a whole, and said application interface data structures of each of said mounted file systems for management of said mounted file systems as a whole, respectively, and wherein said super application interface data structure of said virtual file system is configured to serve as a fundamental interface frame structure to link said mounted file systems together as a mirroring pair.

3. (Currently Amended) The virtual file system of claim 1, wherein said components ~~comprise~~ are one of a file system and a sub-structure of a file system that comprises directories and files.

4. (Currently Amended) A method for ~~sharing~~ mirroring files and directories between file systems on in a computer system or on two computer systems connected to each other via a network, comprising the steps of:

mounting components of each of two file systems in-on a single mount point constituting a single root directory, such that a copy of each component is stored in each of said two file systems to create a virtual file system in which each mounted component of one of said two file systems is linked together with a corresponding component in the other one of said two file systems, each of said mounted components being one of a directory and a file;

configuring said virtual file system so that each component of said virtual file system has a super application interface data structure containing an application interface data structure of said component in said virtual file system, an application interface data structure of a linked component in said one of said two file systems, and an application interface data structure of said corresponding linked component in said other one of said two file systems, said application interface data structure of said component in said virtual file system providing a mechanism for managing said component within said virtual file system and the corresponding linked components within said two file systems;

upon receiving a request to perform a write operation on one of said mounted components, using said application interface data structure of said component in said virtual file system to perform the write operation on said linked component in said one of said two file systems and on the corresponding linked component in said other one of said two file systems in real time in response to said request; and

~~performing said write operation on both copies of said one component in said two file systems, respectively, in real time in response to said request.~~

5. (Previously Presented) The method of claim 4 wherein said request designates said one component, on which the write operation is to be performed, by means of a path name that is common to both of said file systems.

6. (Currently Amended) The method of claim 4 wherein the ~~steps~~ step of performing said write operation includes the steps of acquiring a lock for each ~~copy~~

of said one component and said corresponding component of said one component, and inhibiting said write operation until both locks can be acquired.

7. (Currently Amended) The virtual file system of claim 1, wherein said mounting means mounts a directory of one of said file systems to a directory of the other file system via said single mount point.

8. (Currently Amended) The virtual file system of claim 1 wherein said single mount point constituting the single directory functions as a single mount point for access to the components of ~~either~~ both of said two file systems.

9. (Previously Presented) The virtual file system of claim 1 wherein the mounted components of each file system are replicated in the other file system.

10. (Currently Amended) The method of claim 4 wherein said mounting step comprises mounting a directory of one of said file systems to a directory of the other file system via said single mount point.

11. (Currently Amended) A mirrored file system, comprising:
a first server having a first local file system and a first physical storage device associated therewith;
a second server having a second local file system and a second physical storage device associated therewith; and

a client device having a virtual file system which mounts an imported file system from said first server and an imported file system from said second server on a single mount point constituting a single root directory to provide a single point of access for mounted components stored in each of said first and second local file systems, such that each mounted component in one of said first and second local file systems has a corresponding copy in the other one of said first and second local file systems.

12. (Currently Amended) The mirrored file system of claim 11, wherein said first local file system and said second local file system are each imported into said client device, and said virtual file system mounts components of each of said two imported file systems to a single directory via said single mount point.

13. (Currently Amended) The mirrored file system of claim 12 wherein said virtual file system ~~contains elements which respectively correspond to each of the mounted components, each of said elements having an application interface data structure with two associated pointers that respectively point to application interface data structures of a corresponding component in each of said two imported file systems~~ a super application interface data structure including an application interface data structure of said virtual file system, an application interface data structure of said first local file system, and an application interface data structure of said second local file system, and

wherein said virtual file system is configured to access said application interface data structures of said first and second local file systems to manage said first and second local file systems mounted on said single mount point.

14. (Currently Amended) The mirrored file system of claim 11 wherein each of said first and second servers includes a virtual file system that mounts components of said server's local file system and components of the other server's local file system in a single directory on said single mount point.

15. (Previously Presented) The mirrored file system of claim 14 wherein the file systems that are imported into said client device comprise the virtual file systems of said first and second servers.

16. (Currently Amended) The mirrored file system of claim 14 wherein the virtual file system in each server contains ~~elements which respectively correspond to each of the mounted components, each of said elements having an application interface data structure with two associated pointers that respectively point to application interface data structures of a corresponding component in each of said two local file systems~~ a super application interface data structure including an application interface data structure of said virtual file system, an application interface data structure of said first local file system, and an application interface data structure of said second local file system, and

wherein said virtual file system in each server is configured to access said application interface data structures of said first and second local file systems to manage said first and second local file systems mounted on said single mount point.

17. (New) The method of claim 4, wherein said virtual file system causes the write operation performed on said one component stored in one of said two file systems to be replicated in the corresponding component of said one component stored in the other one of said two file systems in real time.

18. (New) The mirrored file system of claim 11, wherein said virtual file system is configured to cause an operation performed on a component stored in one of said first and second local file systems to be replicated in the corresponding copy of said component stored in the other one of said first and second local file systems in real time.